

Amendments to the Specification:

Please amend the specification as follows:

At page 8, lines 20-21, replace the paragraph with the following amended paragraph:

Figure 10 is a cross-sectional elevation view of ~~an end section~~ the heating blocks of the hydrogen loading chamber depicted in Figure 9.

At page 12, lines 14-23, replace the paragraph with the following amended paragraph:

Closure fittings 108 and 208 are placed at outer ends of the cooling tubes 104 and 204. Alternatively, the closure fittings also may be ~~place~~ placed at the end of the heating tubes 102 and 202. One of the closure fittings includes a gas inlet, 120 and 220, for introducing the loading gases into the vessel. The other closure fitting includes a gas vent or outlet, 122 and 222, for exhausting the loading gases. The closure fittings 108 and 208 are coupled to controlled needle valves to allow the introduction of hydrogen and inert gasses into the vessel through inlets 120 and 220, and out of the vessel ~~at the vent end of the vessel~~ through outlets 122 and 222. The piping to any such system also may include high-pressure blowout disks (as a safety device), which are rated at pressures 10% to 20% higher than the highest pressure expected during processing.

At page 17, lines 19-26, replace the paragraph with the following amended paragraph:

Figure ~~[[34]]~~ 4 is a schematic illustration of a reel-to-reel production assembly 300. The production loading assembly 300 includes a middle-loading vessel 301 including similar features to vessels 100 and 200. The assembly 300 further includes a fiber unwind reel 350 and fiber wind up reel 352. Each reel includes a spool, an unwind spool 354 and a wind up spool 356 respectively. The rotation of the wind up spool or both of the spools is actuated by a spooling motor, such as electric servo motor 358. A programmable logic controller (PLC) 360 may be electronically coupled to the motor 358 to control the entire process.

At page 22, lines 8-21, replace the paragraph with the following amended paragraph:

Figures 9 and 10 illustrate enlarged cross sectional views of the hydrogen-loading chamber 510, and the heating blocks, respectively. The enlarged views illustrate the small volume of loading chamber 510 in greater detail. Heater blocks 512 and 514, surrounded by ceramic insulation 516 are each placed inside one of the pockets 506 and 508 in vessel blocks 502 and 504, respectively. The insulation 516 helps to separate the hot loading zone from the rest of the optical fiber to reduce the possibility of damage to the polymer coating of the fiber. Each heater block 512 and 514 includes one or more heaters 518, such as electric cartridge heaters. The optical fiber 526 spans the center portion of the loading chamber 510 and is axially positioned between the two cartridge heaters 518 in the loading chamber. As illustrated in Figure 10, the cartridge heaters 518 are in close proximity to the fiber 526 and provide fast heating of the surrounding gas and the fiber 526. ~~In the present embodiment, the cartridge heaters 518 are positioned in each heater block 512 and 514 such that approximately sixty degrees of the circumference of the heater cartridge 518 is exposed to the atmosphere of the loading chamber 510.~~

At page 23, lines 3-9, replace the paragraph with the following amended paragraph:

In certain circumstances, such as in very high heat applications, or where repeated use of the vessel caused heat buildup (e.g., in an in-line application), the vessel blocks 502 and 504 may include liquid cooling lines 530. The cooling lines 530 are positioned along the y-axis near the top edge of the center pockets 506 and 508 and are used to keep the fiber polymer coating 527 cool during loading. The cooling lines help to minimize the risk that the polymer coating 527 in non-loaded portions of the optical fiber 526 remains below the temperature that would cause degradation or oxidation.

At page 24, lines 6-16, replace the paragraph with the following amended paragraph:

Figure 13 is a top plan view of the lower vessel block 504. This view more clearly shows the optical fiber path in the center of the vessel blocks x-axis upper surface. The fiber guides 532 outboard of the block edges provide coarse alignment of the fiber 526 to the radial grooves 524 that are machined into the vessel block 504 upper face. The heater block 514 with surrounding

ceramic insulation 516 is centered in both axes in the center of the vessel block 504. ~~The cooling lines 530~~ Bolt holes 531 are machined in the y-axis very close to the point where the optical fiber 526 intersects the loading chamber 510. The two guide pins 523 are located on opposite corners of the block 504 to provide precise final alignment of the vessel blocks 502 and 504 before clamping occurs around the optical fiber 526. The elastomer seal 534 is positioned to minimize or eliminate gas leakage during the loading process.